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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/890,490   | 07/31/2001  | Alan Chin Leong Yeo  | PHN 17,751          | 1700             |
| 24737  | 7590        | 08/18/2006           | EXAMINER            |                  |
| PHILIPS INTELLECTUAL PROPERTY & STANDARDS<br>P.O. BOX 3001<br>BRIARCLIFF MANOR, NY 10510 |             |                      | NGUYEN, DUC M       |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2618                |                  |

DATE MAILED: 08/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/890,490

Applicant(s)

YEO ET AL.

Examiner

Duc M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10,11 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-11, 13-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is in response to the Appeal Brief filed on 7/10/06. Claims 10-11, 13-20 are now pending in the present application. **This action is made final.**

### **Appeal Brief**

1. In view of the Appeal Brief filed on 7/10/06, PROSECUTION IS HEREBY REOPENED. A new ground of rejection set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims **10-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kim** in view of **Sakashita et al** (US **4,939,789**) and **Enoki** (JP 0729779 A).

Regarding claim **10**, **Kim** discloses a method of tuning a receiver for a RF signal (see Fig. 2A), comprising:

- one or more filters that are configured to filter an input signal to obtain a processed signal (see Fig. 2A regarding refs. 204, 206);
- a decoder that is configured to determine a digital figure of merit from the processed signal (see Fig. 2A and refs. 210, 211, 216, and col. 4, line 60 – col. 5, line 29), wherein it is clear that in order to tune the center frequency of the filters and also provide an AFC tuning signal, **Kim** would obviously, if not implicitly, teach a frequency deviation error or a BER (both of which would be a “digital value” and would read on a “digital figure-of-merit” as claimed) is measured, and then converted to the control signal in order to tune the filters and the synthesizer of the receiver to the frequency of the received signal, in the similar way as disclosed by **Enoki** (see Abstract, and Figs. 1-2 regarding frequency deviation error or BER measurements for the AFC) ; and
- a controller that is configured to adjust a center frequency of at least one of the one or more filters in dependence on the digital figure of merit (see col. 5, lines 33-36),

However, **Kim** fails to disclose the tunable filter 206 is a double tuned band filter. However, using a double tuned band filter for a tunable filter is well known in the art as disclosed by **Sakashita** (see Fig. 22, col. 11, lines 60-68). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate Sakashita’s teaching to Kim to use the double tuned filter for the tunable filter 206 as

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well, for utilizing advantages of the double tuned band filter such as high quality factor Q.

Regarding claim **11**, the claim is rejected for the same reason as set forth in claim 10 above. In addition, **Kim** discloses a pre-amplifier, a mixer and a decoder as claimed (see Fig. 2A, refs. 205, 206, 212, 213).

4. Claims **13-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kim** (US **5,963,856**) in view of **Liebetreu et al** (US **5,721,756**) and **Enoki** (JP 0729779 A).

Regarding claim **13**, **Kim** discloses a method of tuning a receiver for a RF signal (see Fig. 2A), the method comprising the steps of:

- receiving an RF signal (see Fig. 2A);
- mixing the filtered signal with an oscillator signal to provide an IF signal (see Fig. 2A, regarding refs. 204, 206, 207, 208);
- demodulating the IF signal to provide a digital output signal and obtain a digital figure-of-merit (see Fig. 2A, refs. 210, 211, 216, and col. 4, line 60 – col. 5, line 29), wherein it is clear that in order to tune the center frequency of the filters and also provide an AFC tuning signal, Kim would obviously, if not implicitly, teach a frequency deviation error or BER (both of which would be a digital value and would read on a “digital figure-of-merit”) is measured and converted to the control signal in order to tune the filters and LO of the receiver to the frequency of the received signal, in the similar

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way as disclosed by **Enoki** (see Abstract, and Figs. 1-2 regarding frequency deviation error or BER measurements for the AFC);

- adjusting the center frequency of at least one or more filters in dependence on the digital figure-of-merit (see col. 5, lines 33-36 regarding the control signal).

Here, although **Kim** discloses the ADC 211 is located within the baseband processor 210 and that the control signal is outputted from the baseband processor (see Fig. 2A regarding ref. 210), **Kim** is silent on whether the control signal (or figure-of-merit) is obtained/processed after the ADC 211. However, in an analogous art, **Liebetreu** discloses a method of tuning a receiver for a RF signal, wherein a digital figure-of-merit (BER) is used to generate tuning control signals for the receiver, and wherein the BER is clearly measured after ADC (see **Fig. 1, 5, Abstract and col. 7, line 5 – col. 8, line 22**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate **Liebetreu's** teaching to **Kim** to utilize advantages of digital signals generated in response to real-time changes in the BER of the decoded digital data signal (see **Liebetreu**, col. 8, lines 20-22), to measure a signal quality (i.e., BER) after ADC 211 in **Kim**, thereby providing a figure-of-merit (BER) associated with a digital output signal as claimed, for improving the performance of the tuning process (see **Liebetreu**, col. 8, lines 23-35).

Regarding claims **14-15, 17**, the claims are rejected for the same reason as set forth in claim 13 above. In addition, **Kim** would disclose adjusting one or more RF filters as claimed (see Fig. 2A regarding filters 204, 206 and col. 6, lines 4-11).

Regarding claims **16, 18**, the claims are rejected for the same reason as set forth in claim 13 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kim** to adjust filters sequentially as disclosed by **Liebetreu** (see col. 7, lines 35-45), to optimize the performance of the tunable filters.

Regarding claim **19**, the claim is rejected for the same reason as set forth in claim 13 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kim** to adjust filters independently and sequentially as disclosed by **Liebetreu** (see col. 5, lines 7-20 and col. 7, lines 35-45), to optimize the performance of the tunable filters.

Regarding claim **20**, the claim is rejected for the same reason as set forth in claim 13 above. In addition, Kim as modified would disclose a BER as claimed (see **Liebetreu**, Fig. 5, Abstract).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 10, 13 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. **Any response to this final action should be mailed to:**

Box A.F.

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(571) 273-8300 (for **formal** communications intended for entry)

(571)-273-7893 (for informal or **draft** communications).

Hand-delivered responses should be brought to Customer Service Window,  
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry concerning this communication or communications from the examiner should be directed to Duc M. Nguyen whose telephone number is (571) 272-7893, Monday-Thursday (9:00 AM - 5:00 PM).

Or to Matthew Anderson (Supervisor) whose telephone number is (571) 272-4177.

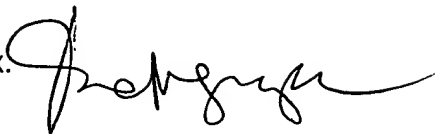


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Duc M. Nguyen, P.Ex.

A handwritten signature in black ink, appearing to read 'Duc M. Nguyen', written over the printed name.

Aug 9, 2006